

ATARI COMPUTER ENTHUSIASTS

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NOVEMBER, 1983

Mike Dunn & Jim Bumpas, Editors



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HOUSEHOLD UTILITY PROGRAMS by Ken Vaibal

News and Reviews

Mike Dunn, Co-Editor

Atari has just bought the license to market three of Synapse's new applications packages. Synfile (the replacement for Filemanager 800), Syntext word processor, and Syncalc spreadsheet will all be Atari products.

On November 7, 1983 at 7:00 pm, Synapse will demonstrate their latest releases at the Portland club meeting in the Bonneville Power building across the street from Lloyd Center.

The home computer business continues to remain in turmoil. None of the major new computers that were to be out for the Christmas season are ready. Major retailers need to have their stock in October for Christmas, and nothing is ready. The new Atari computers are not around here, but I have heard a few of the 600XL's and 800XL's have reached these shores.

The IBM Peanut, an 8088 computer with a detached infra-red keyboard starting at about \$800 and ranging to \$1300 with 128K and a disk drive is about to be announced. Apple hopes its Macintosh, a \$3000 Lisa-like computer, will be revolutionary enough to take over the market. Meanwhile, the president of Atari is now the vice-president of Apple because he wanted to work for a company that has more of a commitment to computers.

Atari has lost a bundle of money again, probably because they don't have any new machines to sell, and the 800's and 1200's are selling so inexpensively. LOGO, which could be a big seller of both software and computers, is just not available — I've heard they decided not to produce very many because they are afraid of being stuck with a lot of excess software and losing again. Pole Position is still not out — perhaps it will be by the Christmas season. I've also heard, from several sources, that Warner Communications is considering throwing in the towel and is negotiating with North American Phillips (the cassette company from Holland?) to sell Atari.

Of course, all of this might change if the super Atari, the one that will run IBM, Apple and Atari software is released. The huge Atari research budget must be used on something.

Several of the members of the original Atari design team, including the ex-president of Atari, Rodger Badertscher, have formed a new company called **Mindset** which will be producing a new 68000 home computer with three custom graphic chips. This new machine is supposed to be several steps above present home computers. The 68000 chip is a 16/32 bit chip, compared to the 8088, which is a 8/16 bit chip. If any of you out there know any more, please let me know.

At our last meeting, Jon Attack demonstrated his soon to be released new game, **Quasimodo**. Jon is a Eugene teenager who has been in our club about 2 years. When he came to his first ACE meeting, he decided to learn to program, and within a few months, was already the best in the area. His first effort was a Berserk like game in BASIC that was remarkably good for a beginner. Deciding BASIC was too slow for games, Jon taught himself to program in machine language using only the Atari's De Re Atari! When I mentioned all of this to Ihor Wolosenko of Synapse, Ihor wanted to talk to him. One thing lead to another, and now the new Synapse game, Quasimodo. This is an action game, of the Donkey Kong type, but much more elaborate. There are multiple screens with incredible graphics and music; but more important, the game is really fun — and I don't think that about many games! When we get a review copy, we will review it in great depth; in the mean time, boys and girls, I recommend you start saving your pennies or asking Santa Claus for one of the best games I've ever seen!!

Another very interesting program/hardware device is the new Koala drawing pad with drawing software — very impressive for about \$100.

Some time back I received a review copy of a very different program from Amulet Enterprises (POB 25612, Garfield Hts., Ohio 44125) called **Three Little Pigs**, one of the new Magic Storybook series. This consists of a cassette tape telling the story in a human voice, and incredible pictures like a picture book on your screen. The child uses a joystick to move to the next picture. I was told to give it to a three year old to review, but couldn't find one that would be both interested in the three little pigs, as well as write a review! A very nice product for a little one.

One of our members sent me a new device he is selling which disables the write protect function on the Atari 810 disk drive called **No-Notch**. It consists of a push-button switch mounted on the back of your drive, and enables you to write on the back side of a disk, as well as on commercial disks without notches. I've seen such gadgets advertised before, and never thought they would be of much use, but I was wrong — I find it is one of the handiest things I have. Very easy to install, only \$11 from Eastbank Institute, 724 Bonita Drive, Winter Park, FL 32789.

Last month I mentioned that Mr. Austin Franklin told me the reason my **Austin Franklin 80 Column Board** had an unstable display was because I had an old 32K memory board drawing too much power. He sent me his 48K board using low-power 64K chips and the loop-back to work on an 800, and all my problems went away. In addition, the display on my color TV improved dramatically!! Much sharper and no interference.

Also last month I said the printer drivers for the AtariWriter was \$15 — they are really \$25.

Fun with Art

Epyx, 1043 Kiel Ct., Sunnyvale, CA 94089

A new ROM cartridge from Epyx is an outstanding drawing program on the order of MicroPainter and Paint. Designed for the 5-10 year old, it is easy enough to be used by adults. When plugged in, you are greeted with a Icon-like menu — you use your joystick to select the function wanted. In addition to the usual drawing modes, such as Draw, Outline, Line, Box, and Circle, you can change the size of your line, add small and large text, and Zoom for fine work. Unusual functions include the ability to block transfer, copy, mirror image of fill in various directions. You can use 128 different colors and save your picture on disk or tape. They also include some BASIC programs and information on how to use the pictures in your programs. Not much documentation, but very easy to use. Very nice, for \$29 I think.

Spell Perfect

LJK 7852 Big Bend blvd., St. Louis, MO 63119, \$80

A useful new program for checking the spelling of text produced by LJK's Letter Perfect, or files changed to the LJK format by their disk utility, this new program has many unusual features. It boots in with the familiar LJK style menu and has a nice manual similar to that of Letter Perfect. The package includes two double-sided disks — two single-density programs, one for use with the Bit-3 80 column board, and a double-sided dictionary disk, one side double density. You can use the program in either single or double density, but not with the Austin Franklin Board yet. The manual first tells you to backup your disks, and includes a menu prompt for that function — a very refreshing change from all the copy-protected programs that are now out! I am going to stop now, and use the program on my article from the beginning of News and Reviews.

Performance:

First, I loaded in the master disk — it would only boot in a few sectors, the "boot-error". One of the local dealers mentioned he had trouble booting in some of theirs too. Since there was also a Bit-3 side, I used a disk-scanning program to find that sector 9 was defective, and copied the sector from the Bit-3 side to the other side. Since I had just installed the write-protect override switch (see above), I did not need to punch out the disk. Re-booting, which took only 13 seconds, the program worked fine. First, I backed up the program and dictionary as advised by the manual. Then, loaded in the file above and it counted the words — took 2.35 minutes elapsed time to count 945 words, 445 different and find 70 unlisted word. Now to correct the file — each non-dictionary word is flagged — most are names, address, etc, and you ignore them. When you get a miss-spelled word, you can re-type it, or, if you are a poor speller, you can get a list of similar words to choose from. You pick the number of the word, and it is corrected — as well as anywhere in the text you have made a similar mistake — very nice!! After 12 minutes from beginning to end, all was corrected, a total of 62 words, 8 that were misspelled. Only two needed to be looked up, the rest were on the match word list. If you want to save all the words in your dictionary, it took another 5 minutes, or you could just type them in.

For the fun of it, I tried the same file with the Datasoft product, Spell Wizard, reviewed in the past. It took 36 seconds to boot in, counted 1198 words, 525 unique in elapsed time of 3.14 minutes. To correct the file took 14.38 minutes from boot in to finish — Spell Wizard allows you to find the misspelled word by using wild-cards to find it in the dictionary. The words whiz by so quickly, it is difficult to read them, and when you find the one you want, you do need to retype them, instead of choosing it with a number from a menu. It did find some words that Spell Perfect didn't. You can save all the new words to your dictionary, or just those you want to — not a choice for Spell Perfect.

Which do I recommend? Either works fine. If you have Letter Perfect, LJK's outstanding word-processor, Spell Perfect would be the first choice because of the unique format that LJK uses. If you have any other word-processor, you would need to get the LJK Disk Utility program to change the file back and forth to the correct format — a minor inconvenience. However, if you are really a poor speller, the ability to choose the right spelling from a menu, and correcting the same misspelling through out the document is worth it.

Bytewriter

Convologic, 2800 W. State Rd., Road 434, Suite 1276, Longwood, FL 32750, \$189.

A new EPROM maker, this is a very nice machine that does it all. Without the use of the usual "personality modules" that most EPROM'ers need to change for different EPROMs, this remarkable machine will read, write and verify 2716, 2516, 2532, 2532A, 2532, 2764, 2564, 68764, and 27128 EPROMs, as well as being able to read many ROMs. You can also save the file to a disk or cassette, and display and change memory. To use, you need to know Hex arithmetic and some knowledge of machine language. More versatile than the MPC EPROM burner, but more difficult to use.

Club 8K & 16K EPROM Cartridge Boards

To go with your new EPROM'er, we are now selling EPROM Boards to raise some money for the club. These were made by one of our Australian sister clubs, and will take either 2732 or 2764 EPROMs, for either 8K or 16K boards. Fully assembled except for the EPROMs, they have over \$4.00 of gold contacts, but do not have cases. Can plug into the right or left slot. Send \$15 for each to EPROM boards, L.J. Knoll, 4480 Pinecrest, Eugene, OR 97405 or call him at 503-343-5191.

ATR8000 News

The new MYDOS is now available from SWP for \$25. On one side is the standard 3.08 that allows the use of any kind of drive including 80 track, double sided and 8" with your Atari. On the reverse is a special ATR version allowing the use of a modem with the ATR RS-232 port, and comes with several nice public domain modem programs. It does not yet work with ARMUDIC, our bulletin board system, but Frank Hubbard is working with the MYDOS author to change it. Very worthwhile for anyone with double sided disk, this program comes with a file that you use to print out about 20 pages of documentation. Available from local ATR dealers or SWP.

AACE, 8207 Briarwood Lane, Austin, TX 78758, the Austin, TX ACE group is forming a group for ATR owners. They have a patch to the ATR ROM. If you have the 2.01 ROM, change location EA6 (6EA& if you have an MPC burner) from F9 to F7. This will solve formatting problems with sector 260. You can also change the formatting of disks so they load much faster with standard Atari 810 disk drives by reversing the interleave. To do this, reverse the order of locations F0F to F20, so instead of the sequence 12 10 0e 0c...05 03 01, use the opposite: 01 03 05...0c 0e 10 12.

Some of the MYDOS 3.12 does not work correctly, and can be patched by booting in with BASIC, then:

POKE 6699,232

POKE 6700,19

DOS

H (to re-write DOS)

Reboot

If you want to use the SMART term program on the MYDOS disk with the D.C. Hayes SmartModem, reverse the lines in the program 9040 and 9045. Add to the new line 9045 ":XIO 34,#M,192,0,"R:". If you use option 1 or 13 then you must add ctrim at the end of each command to the modem.

BRYAN'S ARCADE

LODE RUNNER

Lode Runner is a new home computer game from Broderbund Software for your Atari Home Computer.

Lode Runner is a combination of two games. Apple Panic, an earlier game from Broderbund, and Donkey Kong, Jumpman, Jumpman Junior and almost any other climbing ladders game.

You are the Galactic Commando deep inside enemy territory. The leaders of the Bungeling Empire have stolen a fortune in gold from your people. Your task is to go into each of the 150 rooms of this huge building and get all of the gold chests without getting killed by one of the Bungeling guards.

You do have one weapon to use against the BUNGELING guards. You can dig holes on the floors of the rooms and the Bungeling guards will fall into the holes and stay there for a couple seconds while you hopefully escape.

There are 150 different levels you must try to complete. Also included on the disk is a special feature which enables you to make your own level or modify one of the 150 levels. So overall you can get up to as many different levels as your mind can come up with. But every level you come up with has to be saved on a separate disk.

The graphics in Lode Runner are very good. The sound also makes Lode Runner a great game. If you like climbing and digging games with a fast tempo you will really love this game from Broderbund Software.

—Bryan Dunn

BUMPAS REVIEWS

FREE SOFTWARE FOR YOUR ATARI is a \$9 book from Enrich/Ohaus Computer Books, 2325 Paragon Drive, San Jose, CA 95131. Most members of user groups will not need the information that user groups make available public domain software to members for little or no cost.

ACE members will be pleased to read the "mini-profile" on our club. They do misspell Ali Erickson's name, and they omit to mention me as co-editor of the newsletter. They credit Mike Dunn as both editor of the newsletter and president of the club.

Useful information in the book includes a directory of approximately 250 Atari user groups, about 50 addresses for organizations involved in educational uses of the computer, 20 newsletters and magazines, and 18 pages of telephone numbers of various bulletin boards.

In the middle of the book are about 60 pages taking the reader step-by-step through the operation of modems, terminal programs, and accessing bulletin boards. Detailed articles review Jonesterm, Amodem, Amistern, and Miniarm. A short, 20 line listing of an RS-232 handler is provided in the book. This listing is necessary to open the serial port on the 850 Interface for communication. There is a lot of useful information in this book for a reasonable price.

BASEBALL

I have two baseball games to review this issue. They are both excellent, and if you can believe it, quite different. How different can two baseball games be? Let me count the ways.

STAR LEAGUE BASEBALL \$32 from Gamestar requires 32k disk and devotes a lot of effort to "chrome". By this I mean it succeeds in giving the user a lot of the "feel" of being at a real baseball game. Several tunes are played during the game, including a couple of bars of the Star Spangled Banner at each game's start. Players are asked to stand. Trivia questions and major league scores are shown on the scoreboard between innings.

One or two players may choose a lineup of sluggers or "liners" (liners get hits more easily), and a fastball or curveball pitcher. Each pitcher has a repertoire of 8 pitches delivered with the joystick. Pitchers get tired as the game progresses, and they find it harder to pitch strikes. A relief knuckle-ball pitcher is available in the 8th inning.

The screen shows the ballfield as viewed from the upperdeck along the deep rightfield foul line. Pitches and fly balls are accompanied by a shadow. To catch a fly ball, the fielder must be moved to where the ball and shadow approach each other.

The lead base runner is controlled at all times. Real squeeze plays may be run. Runners behind the lead runner will not run unless forced until the lead runner is put out or crosses home plate. Throws to the infield are never missed by the fielders. The score may be displayed at any time. This game is a lot of fun to play without having to develop a lot of skill first.

INHOME BASEBALL is \$49.95 and comes on a 16k cartridge. Two players are required, although no disk drive is needed. This game is designed for real players. The screen shot is from overhead at home plate. All pitchers and batters perform identically — skill in the game is entirely up to the players.

Pitches are controlled by the joystick. Throws may be made to any defensive player — even the outfielders! The fielder is selected with the joystick, and sometimes a player will select the wrong one. Second base is particularly hard to hit. I throw to the outfield too much. If the receiving fielder is moved off the line of the throw at a 90 degree angle, he may miss the throw. Throws will not go over any fielder's head, so movement within the line of the throw will not cause a problem. The outfielder nearest a hit ball is not automatically activated, but must be selected before the ball may be picked up.

All base runners may be controlled by the player, so all runners may be set in motion at one time. Or individual runners may be selected for stealing bases or advancing. Leading off is possible, but a step beyond a short leadoff and the runner will continue to the next base. The player cannot turn the runner around.

The Arcade Machine for \$60 from Broderbund lets the user create autoboot disk-based arcade games of the user's own design. As long as the user is willing to work within the constraints of the program, he will find a good outlet for the urge to create original arcade games.

The program provides easily accessible menus which drive several modules. One module is a character and animation editor. Here the characters ("shapes") are edited and animated. Another module is the "path" editor. This is where the shapes are told how to move on the screen. There is a background scene and title page editor. There are editors for adding sound and music and changing colors. The game being created may be run at any time during the creative process in order to see how things are going.

The program provides a partially created game upon which to begin practicing the various features of the program. On the back side of the disk are four entertaining arcade games created with The Arcade Machine, to show you what can be done. The 60 page manual is a tutorial, taking you through the features, step by step. Finally, there is a utility program which creates the autoboot game disk for your final product. Broderbund is offering cash prizes for the best game design created with their product. This looks like a good way to try out your own ability to create arcade games without having to learn machine language.

—Jim Bumpas
co-Editor

ERACE

COMPUTER TUTOR: ATARI Home Computer Edition

by Gary W. Orwig and William S. Hodges/Little, Brown and Company, 1983, \$15.95. Softcover, 345 pages

Many of us have expressed the intention of using our ATARI computers to help us with our home education needs. However, finding effective programs is a problem. Some of the better materials in my collection of computer assisted instruction have come from our own ACE library. This public domain software is invaluable because we can learn from it and modify it for our own families.

Another good source of public domain software is the computer magazine, of which there are many. But educational programs (and I'm not referring to those which teach programming) are seldom included in these magazines. Now, in an effort to promote further educational use of computers, Gary Orwig and William Hodges have written a collection of learning programs for home and school use. Two editions of COMPUTER TUTOR are available, one for TRS-80, Apple and PET/CBM home computers, and the other for ATARI home computers.

Believing that "a student in need of remedial instruction can often obtain more personalized, 'humanistic' attention from well designed CAI programs than he or she can get from a classroom with 34 other students in it," the authors provide us with twenty-five learning programs which demonstrate the instructional uses of computers. Each can be modified and augmented as users choose.

The programs are organized into three sections. The first, Linear Programs, includes fifteen examples of drill and practice CAI (computer-assisted instruction). These have a linear, or fixed, sequence of instruction. Subjects include mathematics, vocabulary, science, memory enhancement, and social studies.

The second section provides four "branching" programs, so-called because they allow for more than one sequence of instruction. The particular sequence followed is determined by how much learners know and how fast they learn.

The final section contains six simulation programs. Here's your chance to play the stock market without risking money you don't have, or to run a car wash without getting wet. Each of the twenty-five programs is first described in a brief paragraph or two, followed by program notes that usually offer suggestions for modifying the program. For example, the authors suggest that "Capitals of Nations" could be used to teach any set of matched pairs, such as English/French, author/title, etc. Following the notes, both an ATARI BASIC listing and a Microsoft BASIC listing are printed, together with corresponding tables of variables used. Finally, each program is accompanied by an abbreviated sample run.

Because the ATARI version includes listings in both ATARI BASIC and Microsoft BASIC, the programs should run on any ATARI computer system, whether configured with cassette or disk drive. Most of the programs are short and should run on a 16K system.

The objective of the book is not to provide examples of the best educational software, but simply to acquaint us with some of the possibilities. Although these simple programs do not make use of graphics and sound, the authors include in Appendix A several subroutines that can be adapted by the user and included in the programs. These include routines to create random notes, a musical scale, large text, and happy and sad faces.

For parents looking for inexpensive but effective learning software, Computer Tutor is the place to start.

—R. DeLoy Graham

ERACE

One of the original goals of the ERACE group was to review and catalog existing educational software for the Atari. We knew this was going to be a large task, but none of us had even a small hint of just how large a task. The number of educational programs out there is overwhelming. Some of us have been reviewing programs for several months now, and we have barely scratched the surface of available programs. But while we have been reviewing we have made contact with several quality software publishers and information groups with excellent existing reviews and aids for those interested in educational software. So we here at ERACE have plotted a new course to take in the coming months.

We have decided that rather than doing all the reviewing and cataloging ourselves, our energies will be better spent in directing you to the publishers, agencies and reviewers which can give you the specific help you need. We have received many letters in the past few months asking for help in finding software, and we feel we have not been able to meet your needs because our personal knowledge of available programs was not broad enough. With this new approach we feel we will be in a position to really provide you a service.

We will be putting together lists of good agencies, software publishers and other groups which may be able to help you. Anyone writing to us asking for this type of information will receive a copy as soon as it is finished. If you are not sure you are on our list send me a note requesting the "ERACE HELP LIST". Include a business size SASE.

We have a few other irons in the fire, but you will have to wait until they cool off a bit before I can say more.

Even though we have had to reevaluate our position as a reviewing center, we are still going to be reviewing software as we receive it. We are also going to continue to publish reviews of notable software in the newsletter each month. We have a good stockpile to work from now, but if any of you have found a program you want others to know about, write a review on it and send it to me. We will try to work it in as soon as possible.

This last year has truly been educational. I have learned more about software than I really wanted to know. There are some very good programs out there and we are trying to get them into your homes.

Happy, healthful learning until next month. . .

—Robert Browning

ERACE REVIEWS

This month we are going to spotlight "TEASERS BY TOBBS" from SUNBURST, a publisher specializing in educational courseware for the school and home.

Tobbs is a friendly little character who will introduce you to a math puzzle in either addition or multiplication. He will then let you know if your answer is wrong, give you clues if you need help, and reward you enthusiastically when you are correct.

TEASERS BY TOBBS is an entertaining, award winning program which provides practice in addition and multiplication. Because of the way the puzzles are presented they also will sharpen subtraction and division skills, and help develop problem solving logic. Its six levels of difficulty provide a challenge for anyone 8 years old to adult. The program will accommodate 1-4 players or teams may be formed for group play.

The puzzles are presented on a 3x3 grid with some numbers missing. The operation for the problem is displayed in the upper left corner. The student must then use logic to decide which number or numbers belong in the corresponding boxes. This provides practice in math skills as well as developing an understanding of the principle of what can be, what must be and what can't be correct.

The entire program is very well put together. The documentation in the Teacher's Guide is excellent, and provides all the information necessary to fully use the program.

Program requirements: disk drive, 16K RAM, keyboard input. Price \$49.

—Robert Browning

ADDRESS LIST MADE SIMPLE

Do you fail to write relatives and friends, or fail to pay bills on time because you can't find the time to look up addresses? When you write addresses on envelopes, is your writing so bad one can hardly read it? If you answer yes to the above, this program is for you.

You may use this envelope writing program as your Christmas card list or use it to pre-address envelopes to remind you to write someone or send in a periodic bill. The program will repeat a single address as many times as you wish. When the "REPEAT AN ADDRESS" prompt appears (Line 210), put another envelope into the printer and press Y and Return.

I have included a sample address in Line 310 to demonstrate how to use the program. Add your own addresses as data statements in lines above 300.

The zip code is printed in expanded print and you may need to change Line 150 to be the appropriate command for your printer. This program was written for the Atari 1025 printer.

You may wish to have several copies of this program for different lists. It has helped me in my writing to prepare my envelopes ahead of time. I hope it will do the same for you.

Variables: A\$ = Name; B\$ = Address; C\$ = City; D\$ = State; E\$ = Zip Code.

NOTE: Do not use a comma after Jr. or Sr. in your data statements; you will cause the computer to interpret the comma as a sign to move the indicator to the next bit of data.

—Ken Waibel
Waianae, Hawaii

CHECKING IT OUT

Although we bought our Ataris to play games, we can appreciate a program with a practical application to justify the expense to our wives or husbands. This check writing program will help.

This program was written for the Atari 1025 printer which does not have a tab feature. If you have the tab feature, you may be able to simplify the program; therefore, the spaces will not be critical as they are with the 1025.

As checks are so personalized, you will need to change lines 300-364 for your own needs. You will also need to personalize ALL lines 600-2040 for data relative to your needs.

To help you make these changes run the program the way it is first. Read the instructions (line 54) and press M when the "KIND OF CHECK" prompt appears. This will print a simulated mortgage check. Check the spacing with your personal checks by holding the check and the paper with the simulated mortgage check together and looking at a lighted background. You will need to adjust the spacing of B\$ in line 1510 and the printing lines of 400-425 appropriately for your checks. This type of check is for one for the same person and amount each time.

The Kind of Check prompt should be on your screen. You should then press S to Sears, Roebuck & Co. This type of check is to the same person or company each time, but varies in amount. You will need to enter a dollar amount and an account number (FOR) to send the check to the printer. Compare this simulated check to your own check and adjust lines 1500-1540 and lines 100-146. You may wish to change B\$ to Penney's and enter your own account number and change line 356 to Penney's. Do not change the S unless you also change line 392 with correct code.

The Kind of Check prompt should be on your screen. Press R for a simulated check. This check is to any person or company for any amount and any purpose (FOR). This is the third type of check the program writes. Again, compare the simulated check with your personal check for spacing and adjust lines 1600-1636 appropriately for your checks.

Once you have determined the correct spacing for your own check you should determine which Kind of Check prompts you will need and follow the pattern above for type one checks (same person and amount), type two checks (same person, but differing amounts), and type three checks (differing persons and amounts). The only entry you will need for type three checks is R in line 354 and lines 1600-1636.

To help you identify the variable, use the following (not a complete list):

A\$ = Month and day (lines 140 and 420 need a yearly change);
B\$ = To whom and dollars (spacing is critical if no tab is used);
C\$ = To whom;
D\$ = Dollar in decimal;
G\$ = For or account number.

—Ken Waibel
Waianae, Hawaii

PILOT RUTH

SOUND AND MUSIC
by Ruth Ellsworth

This month continues the series of articles on learning PILOT, but with the addition of similar commands in LOGO to allow the listings to be given in both languages. My children have not decided whether my monthly article should now come under the heading of PILOG or LOGOPI, but as we are still beginning LOGO users, I feel that PILOG is probably most appropriate. We are happy to share what we have learned and invite others to learn along with us.

One of the nicest things about PILOT is the ease with which sound and music can be added to programs. It is necessary to learn to use only two commands (the SO: command and the PA: command) to "make the computer sing."

PILOT allows four voices, which means up to four notes can be played at one time. Sound is called with the SO: command. A single voice requires only the SO: command followed by the number of the note desired, for example SO:13 would call one voice generating Middle C. Multiple voices are indicated by commas separating the note values for each voice. The command SO:13,17,20 would generate a three voice chord of Middle C, E, G.

The duration of the note to be played is determined by PA:, the pause command. Each note will be held the length which PA: specifies. For all practical purposes there are no limits to PA: length. Each increment of one gives the note length 1/60th of a second additional time. The most commonly used pause values for music are: 4 (thirty second note), 8 (sixteenth note), 16 (eighth note), 32 (quarter note), 64 (half note), and 128 (whole note).

Thirty one notes are available for use with the SO: command. They correspond to the notes low C to high F. The listings below begin with examples of music which our children added to adventure type games similar to those included in the September issue of the ACE Newsletter. Sounds can also be generated by using pointers to produce sounds. The @ symbol tells the computer to use the value at the given address. The use of pointers will take some experimentation and values above 32767 will produce static tones.

SO: and PA: commands may not appear on the same line in PILOT. To write music one need only enter a SO: command followed by a PA: command on the next line. If the same note is to be played over without separation by another note, it is necessary to place a SO:0 command between the notes or they will be generated as one long note.

Sound and music in LOGO is more sophisticated. It is also a little more complicated, but not difficult to learn. There are only two voices available for use in LOGO: TOOT 0, and TOOT 1. The voice desired is followed by a value for frequency (any value greater than 14), volume (0 to 15), and duration (0 to 225). The addition of volume control is very nice and helps to make the music more "musical" in sound. As in PILOT, the unit of duration for each increment is 1/60th of a second.

For example, TOOT 0 440 15 32 generates the note A in the loudest volume for the value of a quarter note in the first voice.

The note values of the sounds in LOGO are not given in the documentation except for A above middle C. We experimented with sound values and determined there were 20 increments between half tones (the tone interval between a white key and the black key beside it on a piano). One can set up a diagram of the keys of a piano using half tones between the black and white keys. Whole steps will occur between the keys B and C, and the keys E and F. By our calculation Middle C will have the frequency value 520.

LOGO also includes a SETENV command which reduces the volume 1 unit each 1/60th of a second. This feature gives the notes a more musical sound reducing the computer sound of the music, and giving it a very pleasing effect.

The final listings are random note generation in PILOT and LOGO which may be used to acquaint one with the notes possible using the values available without pointers. We added a little random color to hold the children's attention. Please note that the value 14, which is the lowest accepted by LOGO sound, cannot be added to the RANDOM value and is therefore added to the word FREQ.

DEPTHCHARGE by Sydney Brown

```

1 REM *****COMPUTER ENTHUSIASTS*****
3 REM ** 3662 VINE MAPLE DR **
4 REM ** EUGENE, OR 97405 **
5 REM ** $15 YR AFTER 11/1/84 **
6 REM ** NOV 1983 **
7 REM *****
99 ? "):GRAPHICS 7:POKE 752,1: ? " JOYSTI
CK 1 MOVES THE SHIP AND THE BUTTON RE
LEASES THE DEPTH CHARGES "
100 ? " S.H.BROWN COMPCO 1982
"
101 POKE 708,128:POKE 709,198:POKE 710,18
:GOSUB 900:POKE 559,62:POKE 623,1
106 POKE 53248,100:POKE 53249,120:POKE 53
250,140:POKE 53251,160
110 POKE 704,8:POKE 705,202:POKE 706,106:
POKE 707,220:PM=PEEK(106)-32:POKE 54279,P
M:POKE 53277,3:GOSUB 999
119 POKE 53256,1:POKE 53257,1:POKE 53258,
0:POKE 53259,0
120 RESTORE :FOR MP=PM*256+1051 TO PM*256
+1062 STEP 2:READ D:POKE MP,D:POKE MP+1,D
:NEXT MP
122 FOR MP=PM*256+1400 TO PM*256+1411 STE
P 2:READ D:POKE MP,D:POKE MP+1,D:NEXT MP
124 FOR MP=PM*256+1690 TO PM*256+1695:REA
D D:POKE MP,D:POKE MP+1,D:NEXT MP
126 FOR MP=PM*256+1892 TO PM*256+1903 SYE
P 2:READ D:POKE MP,D:POKE MP+1,D:NEXT MP
190 S=100:POKE 53248,S:S1=160:S2=50:S3=17
0:D1=0:D2=0:V=PM*256+800:CH=30:SC=0:HI=0:
GOSUB 350
199 POKE 77,0:SOUND 0,100,0,2
200 IF INT(PEEK(77))=1 THEN SOUND 0,14,10
,10:POKE 77,0
201 IF STICK(0)=7 AND S<187 THEN SOUND 3,
255,6,10:S=S+3:POKE 53248,S
202 POKE 53278,0:IF STICK(0)=11 AND S>53
THEN SOUND 3,255,6,10:S=S-3:POKE 53248,S
205 SOUND 3,0,0,0:IF STRIG(0)=0 THEN GOSU
B 300
209 SOUND 0,100,0,2
220 IF S1<10 THEN S1=200+INT(RND(0)*20):W
1=RND(0)*2
221 S1=S1-(1+W1):IF S1<200 THEN POKE 5324
9,S1
225 IF S2<10 THEN S2=200+INT(RND(0)*40):W
2=RND(0)*6
226 S2=S2-(1+W2):IF S2<200 THEN POKE 5325
0,S2
230 IF S3<210 THEN S3=4-INT(RND(0)*30):W3
=RND(0)*4
231 S3=S3+1+W3:IF S3>4 THEN POKE 53251,S3
250 IF D1=0 THEN 255
251 SOUND 1,V1-10,10,6:POKE V1,0:V1=V1+3:
IF V1>170 THEN D1=0:V1=V:GOTO 255
252 POKE V1,3
255 SOUND 1,0,0,0:IF D2=0 THEN 270
256 SOUND 2,V2-10,10,6:POKE V2,0:V2=V2+3:
IF V2>170 THEN D2=0:V2=V:GOTO 270
257 POKE V2,12
270 SOUND 2,0,0,0:IF D1=0 AND D2=0 AND CH
<1 THEN 700
280 Q=PEEK(53256):IF Q<2 THEN 285
281 J=1:IF Q=2 THEN GOSUB 400
282 IF Q=4 THEN GOSUB 425
283 IF Q=8 THEN GOSUB 450
285 Q=PEEK(53257):IF Q<2 THEN 299
286 J=2:IF Q=2 THEN GOSUB 400
287 IF Q=4 THEN GOSUB 425
288 IF Q=8 THEN GOSUB 450
299 GOTO 200
300 IF D2=1 OR CH<1 THEN GOTO 310
301 SOUND 0,0,0,12:FOR W=50 TO 0 STEP -2:
SOUND 0,10,0,W/10:NEXT W:SOUND 0,0,0,0
305 CH=CH-1:D2=1:POKE 53253,S+16:V2=V:POK
E V2,12:GOTO 350
310 IF D1=1 OR CH<1 THEN GOTO 349
311 SOUND 0,0,0,12:FOR W=50 TO 0 STEP -2:
SOUND 0,10,0,W/10:NEXT W:SOUND 0,0,0,0
315 CH=CH-1:D1=1:POKE 53252,S-1:V1=V-2:PO
KE V1,3:GOTO 350
349 RETURN
350 ? "): ? "CHARGES HITS
SCORE": ? " ?CH: ? "HI: ?
"SC
355 RETURN
400 SOUND 1,77,8,8:FOR W=1 TO 21:NEXT W
402 FOR W=160 TO 0 STEP -5:SOUND 1,77,8,W
/10:POKE 705,128+W/20:NEXT W:S1=200:POKE
53249,S1:POKE 705,202
405 SC=SC+10:GOTO 475
425 SOUND 1,77,8,8:FOR W=1 TO 21:NEXT W
426 FOR W=160 TO 0 STEP -5:SOUND 1,77,8,W
/10:POKE 706,128+W/20:NEXT W:S2=200:POKE
53250,S2:POKE 706,106
430 SC=SC+50:GOTO 475
450 SOUND 1,77,8,8:FOR W=1 TO 21:NEXT W
452 FOR W=160 TO 0 STEP -5:SOUND 1,77,8,W
/10:POKE 707,128+W/20:NEXT W:S3=10:POKE 5
3251,S3:POKE 707,220
455 SC=SC+20
475 IF J=1 THEN D1=0:POKE V1,0:V1=V
476 IF J=2 THEN D2=0:POKE V2,0:V2=V
477 HI=HI+1:GOTO 350
700 ? " YOU ARE OUT OF AMMO !!!: ?
"PRESS START BUTTON TO RESTART GAME":POK
E 53279,0:SOUND 0,0,0,0
705 IF PEEK(53279)=6 THEN GOTO 190
709 GOTO 705
900 COLOR 1:PLOT 0,3:POSITION 0,79:POKE 7
65,1:X10 10,0,0,0,"S":FOR W=0 TO 159 ST
EP 2:PLOT W,3:NEXT W
901 COLOR 3:PLOT 10,79:DRAWTO 145,79:PLOT
24,78:DRAWTO 100,78:PLOT 50,77:DRAWTO 67
,77:PLOT 123,78:DRAWTO 135,78
902 COLOR 2:A=20:B=73:GOSUB 905:A=55:B=71
:GOSUB 905:A=69:B=72:GOSUB 905:A=100:B=72
:GOSUB 905
903 A=150:B=73:GOSUB 905:RETURN
905 PLOT A,B+1:PLOT A,B+2:DRAWTO A+3,B+5:
PLOT A+3,B+6:PLOT A+3,B+4:DRAWTO A+6,B+1:
PLOT A+2,B+2:DRAWTO A+3,B:RETURN
999 FOR W=PM*256+768 TO PM*256+2047:POKE
W,0:NEXT W:RETURN
1000 DATA 16,24,28,227,127,62
1010 DATA 16,24,24,125,171,125
1011 DATA 16,24,24,125,171,125
1020 DATA 4,12,12,190,213,190

0 REM *****
1 REM * ATARI COMPUTER ENTHUSIASTS *
2 REM * 3662 VINE MAPLE *
3 REM * EUGENE, OR 97405 *
4 REM * $12.00 YEAR *
5 REM *****
6 REM *****
7 REM ** ENVELOPES **
8 REM ** BY **
9 REM ** KEN E. WAIBEL **
10 REM ** NOV. 1983 **
12 REM *****
20 REM TO ADDRESS ENVELOPES TO ADDRESSES
IN DATA STATEMENTS
40 DIM A$(45),B$(40),C$(40),D$(10),E$(15)
,F$(1)
60 READ A$,B$,C$,D$,E$
80 IF A$="" THEN PRINT "END OF ADDRESSES
":END
100 REM PRINTING ZIP CODES IN LARGE -RINT
110 LPRINT " "A$
120 LPRINT " "B$
130 LPRINT " "C$," "D$
140 REM PRINTING ZIP CODES IN LARGE PRINT
150 OPEN #1,0,"P": ? #1:CHR$(27):CHR$(1
4)
160 ? #1: " "E$
170 CLOSE #1
200 REM TO REPEAT AN ADDRESS
210 ? : ? " "REPEAT SAME ADDRESS (Y/N)":I
NPUT F$
220 IF F$="Y" THEN GOTO 100
230 GOTO 60
300 REM NAMES AND ADDRESSES IN DATA STATE
MENTS
310 DATA ACE Exchange Library, 374 Blackf
oot St., Eugene, Oregon, 97404
320 DATA *,*,*,*,*:REM REMOVE * AND ENT
ER ADDRESS AS EXAMPLE IN 310

```



BOOTBUILD by Chuck Hosick

```

330 DATA
340 DATA
350 DATA
360 DATA
370 DATA
380 DATA
390 DATA
400 REM YOU MAY CONTINUE DATA STATEMENTS
10000 REM SAVE
10010 SAVE "D:ENVEL.ACE"
10020 LIST

```

```

1 REM HATARI COMPUTER ENTHUSIASTS
3 REM ## 3662 VINE MAPLE DR ##
4 REM ## EUGENE, OR 97405 ##
5 REM ## $15 YR AFTER 1/1/84 ##
6 REM ## NOV 1983 ##
7 REM #####
8 REM REPRINTED FROM THE A.C.A.O.C. NEWSL
  ETTER
10 REM SAVE"D:BOOTBILD
20 DIM A$(50),DD(146)
30 GOTO 600
40 INPUT A$
50 FOR I=1 TO 146 STEP 10:CHKSUM=0
60 IF I=10:146 THEN FOR J=1 TO 147-I:GOTO
  80
70 FOR J=1 TO 10
80 READ D:CHKSUM=CHKSUM+D:DD(I+J-1)=D:NEX
  T J
90 READ D:IF CHKSUM=D THEN NEXT I:GOTO 14
  0
100 ? "":?
110 ? "CHECKSUM ERROR AT LINE NO.:"
120 ? PEEK(184)*256+PEEK(183):CLOSE #1
130 LIST PEEK(184)*256+PEEK(183):END
140 OPEN #1,8,"D:AUTORUN.SYS"
150 PUT #1,255
160 PUT #1,255
170 PUT #1,0
180 PUT #1,56
190 L=146+LEN(A$)-1
200 PUT #1,L
205 PUT #1,56
210 FOR I=1 TO 146
220 D=DD(I)
230 IF I=99 THEN PUT #1,LEN(A$):GOTO 250
240 PUT #1,D
250 NEXT I
260 FOR I=LEN(A$) TO 1 STEP -1
270 PUT #1,ASC(A$(I,1))
280 NEXT I
290 PUT #1,255
300 PUT #1,255
310 PUT #1,226
320 PUT #1,2
330 PUT #1,227
340 PUT #1,2
350 PUT #1,0

```

```

360 PUT #1,56
370 CLOSE #1
380 END
400 DATA 169,80,141,0,3,169,1,141,1,3,700
410 DATA 169,63,141,2,3,169,64,141,3,3,75
  8
420 DATA 169,5,141,5,3,141,6,3,169,0,642
430 DATA 141,4,3,141,9,3,141,10,3,141,596
440 DATA 11,3,169,12,141,8,3,32,89,228,69
  6
450 DATA 16,3,76,87,56,162,11,189,0,5,605
460 DATA 157,0,3,202,16,247,32,89,228,48,
  1022
470 DATA 16,32,6,5,165,12,141,85,56,165,6
  83
480 DATA 13,141,86,56,32,0,0,169,103,141,
  741
490 DATA 33,3,169,56,141,34,3,169,0,141,7
  49
500 DATA 214,56,96,251,243,51,246,110,56,
  163,1494
510 DATA 246,51,246,60,246,76,228,243,0,1
  72,1568
520 DATA 214,56,240,9,185,145,56,206,214,
  56,1301
530 DATA 160,1,96,140,33,3,169,228,141,34
  ,1005
540 DATA 3,169,155,160,1,96,504
600 ? "":?
610 ? "BOOTBUILD by Chuck Hosick, A.C.A.O.
  C.":?
620 ? "This program creates an AUTORUN.SY
  S"
630 ? "program disk which:"
640 ? " 1. Loads the RS-232 handler fro
  m"
650 ? "    the 850 interface module if"
660 ? "    a. you have one and"
670 ? "    b. it is turned on."
680 ? "and then"? " 2. Executes an imme
  diate mode"
690 ? "    BASIC command which you ente
  r."
700 ? "    For example -- RUN";CHR$(34)
  ;"D:MENU":?
710 ? "    ENTER YOUR BASIC COMMAND":?
720 GOTO 40
730 END
1 REM #####
2 REM HATARI COMPUTER ENTHUSIASTS
3 REM ## 3662 VINE MAPLE DR ##
4 REM ## EUGENE, OR 97405 ##
5 REM ## $15 YR AFTER 1/1/84 ##
6 REM ## NOV 1983 ##
7 REM #####
8 REM REPRINTED FROM THE A.C.A.O.C. NEWSL
  ETTER
10 REM SAVE"D:BOOTBILD

```

WANTED PROGRAMMERS

For quite some time now the ACE has been receiving calls from software publishers. Most of these people are looking for programmers. There is need for programmers for several different types of projects. Machine language programmers are of course in the highest demand. There is, however, a large demand for COMPETENT programmers in BASIC as well as other languages. If you are interested in programming commercially, send your personal information (name, address, phone and such) along with a sample of your work to: ACE PROGRAMMERS c/o Kirt E. Stockwell 4325 SEAN Eugene, Or., 97402

CANNIBALS by Stan Ockers

```

CANNIBALS BY STAN OCKERS
1 REM #####
2 REM **ATARI COMPUTER ENTHUSIASTS**
3 REM ** 3662 VINE MAPLE DR **
4 REM ** EUGENE, OR 97405 **
5 REM ** $15 YR AFTER 11/1/84 **
6 REM ** NOV 1983 **
7 REM #####
10 REM #####
20 REM **CANNIBALS AND MISSIONARIES **
30 REM ** STAN OCKERS 10-83 **
40 REM #####
50 REM If in Italics, use inverse
100 DIM A$(960):OPEN #6,0,"S":*60SUB 11
50
110 VTABLE=PEEK(134)+256*PEEK(135):SCREEN
RAM=PEEK(88)+256*PEEK(89):OFFSET=SCREENRA
M-ADR(A$)
120 V3=INT(OFFSET/256):V2=OFFSET-256*V3:D
IM B$(240):POKE VTABLE+2,V2:POKE VTABLE+3
,V3
130 B$(1)=CHR$(0):B$(240)=CHR$(0):B$(2)=B
$
140 $$(131,151)="abcbcbcbcbcbcbcbcbcbcbcd"
150 B$(172,190)="e+fgfgfgfgfgfgfgf+fh"
160 DIM CANS(31):RESTORE 170:FOR J=1 TO 3
1:READ A:CANS(J,J)=CHR$(A):NEXT J
170 DATA 92,93,94,95,29,30,30,30,30,4,5,6
,7,29,30,30,30,30,0,1,2,3,29,30,30,30,30,
6,9,10,11
180 DIM BLK$(31):RESTORE 190:FOR J=1 TO 3
1:READ A:BLK$(J,J)=CHR$(A):NEXT J
190 DATA 32,32,32,32,29,30,30,30,30,32,32
,32,32,29,30,30,30,30,32,32,32,32,29,30,3
0,30,30,32,32,32
200 DIM MISS$(31):RESTORE 210:FOR J=1 TO 3
1:READ A:MISS$(J,J)=CHR$(A):NEXT J
210 DATA 140,141,142,143,29,30,30,30,30,1
40,149,150,151,29,30,30,30,30,144,145,146
,147,29,30,30,30,30
220 DATA 152,153,154,155
230 DIM MENA$(6),MENB$(3),MENC$(6)
240 RESTORE 250:DIM CUR1$(6):FOR J=1 TO 6
:READ A:CUR1$(J,J)=CHR$(A):NEXT J
250 DATA 3,9,15,23,29,35
260 MENA$="CCCMNM":MENB$="EEE":MENC$="EEE
EEE"
270 Y=22:CUR1=1:CUR4=1:POKE 752,1
280 CACNT=3:MACNT=3:CBcnt=B:NBCNT=0:CCcnt
=0:MCcnt=B:TRIP=0:BEG=441
290 SETCOLOR 0,2,12:SETCOLOR 1,3,2:SETCOL
OR 2,10,0:SETCOLOR 3,4,10:SETCOLOR 4,11,4
300 ? CHR$(125):60SUB 880
310 X=ASC(CUR1$(CUR1)):POSITION X,Y:? **
":J=J+1 TO 10:NEXT J
320 S=S+STICK(0):IF S=7 AND CUR1<6 THEN CUR
1=CUR1+1

```

```

330 IF S=11 AND CUR1>1 THEN CUR1=CUR1-1
340 POSITION X,Y:? " ";FOR J=1 TO 20:ME
XT J
350 IF S=14 AND MBCNT>0 THEN 490
360 IF STRIG(0)=1 THEN 310
370 IF CBCNT+MBCNT=3 THEN 310
380 M=ASC(MENAS$(CUR1)):IF M=69 THEN 310
390 IF CBCNT=2 THEN 410
400 IF M=67 THEN MENAS$(CUR1,CUR1)="E":CAC
NT=CACNT-1:CBCNT=CBCNT+1:GOSUB 1030
410 IF M=77 THEN MENAS$(CUR1,CUR1)="E":MAC
NT=MACNT-1:MBCNT=MBCNT+1:GOSUB 1050
420 GOSUB 800:GOTO 310
430 FOR K=1 TO 3
440 M=ASC(MENB$(K)):IF M=67 THEN MENB$(K,
K)="E":CBCNT=CBCNT-1:CACNT=CACNT+1:GOSUB
1070
450 IF M=77 THEN MENB$(K,K)="E":MBCNT=MBC
NT-1:MACNT=MACNT+1:GOSUB 1090
460 GOSUB 800:NEXT K:Y=22
470 IF CACNT*MACNT AND MACNT>0 THEN 820
480 GOTO 310
490 IF CACNT*MACNT AND MACNT>0 THEN 820
500 IF CCCNT*MCCNT AND MCCNT>0 THEN 770
510 TRIP=TRIP+1:POSITION 3,23:? #6;"TRIP
#":TRIP;
520 DEL=0:S=STICK(0):IF S=14 AND BEG>241
THEN DEL=-40
530 POKE 77,0
540 IF S=14 AND BEG=241 THEN Y=11:FLAG=1:
GOTO 590
550 IF S=13 AND BEG<441 THEN DEL=40
560 IF S=13 AND BEG=441 THEN Y=11:FLAG=1:
GOTO 430
570 IF S=15 THEN FLAG=0
580 BEG=BEG+DEL:A$(BEG)=B$:GOTO 520
590 FOR K=1 TO 3
600 M=ASC(MENB$(K)):IF M=67 THEN MENB$(K,
K)="E":CCNT=CCNT+1:CBCNT=CBCNT-1:GOSUB
1110
610 IF M=77 THEN MENB$(K,K)="E":MCCNT=MCC
NT+1:MBCNT=MBCNT-1:GOSUB 1130
620 GOSUB 800:NEXT K
630 IF CCCNT*MCCNT AND MCCNT>0 THEN 770
640 Y=1
650 X=ASC(CUR1$(CUR4)):POSITION X,Y:? "##
";:FOR J=1 TO 10:NEXT J
660 S=STICK(0):IF S=7 AND CUR4<6 THEN CUR
4=CUR4+1
670 IF S=11 AND CUR4>1 THEN CUR4=CUR4-1
680 POSITION X,Y:? " ";:FOR J=1 TO 20:ME
XT J
690 IF S=13 AND MBCNT>0 THEN 490
700 IF STRIG(0)=1 THEN 650
710 IF CBCNT+MBCNT=3 THEN 650
720 M=ASC(MENC$(CUR4)):IF M=69 THEN 650
730 IF CBCNT=2 THEN 750

```

```

740 IF M=67 THEN MENC$(CUR4,CUR4)="E":CCC
NT=CCCNT-1:CB CNT=CB CNT+1:60SUB 1030
750 IF M=77 THEN MENC$(CUR4,CUR4)="E":MCC
NT=MCCNT-1:MBCNT=MBCNT+1:60SUB 1050
760 60SUB 800:GOTO 650
770 FOR J=1 TO 6:COLOR 42:PLOT 33,5:DRAW
0 30,10:PLOT 30,5:DRAWTO 33,10:SOUND 0,20
0,10,12
780 FOR K=1 TO 30:NEXT K:COLOR 32:PLOT 33
,5:DRAWTO 30,10:PLOT 30,5:DRAWTO 33,10:SO
UND 0,0,0,0:FOR K=1 TO 30
790 NEXT K:NEXT J:POSITION 2,23:? "AGAIN?
PRESS FIRE";
800 IF STRIG(0)=1 THEN 800
810 GOTO 260
820 FOR J=1 TO 6:COLOR 42:PLOT 33,13:DRAW
TO 30,18:PLOT 30,13:DRAWTO 33,18:SOUND 0,
150,10,12
830 FOR K=1 TO 30:NEXT K:COLOR 32:PLOT 33
,13:DRAWTO 30,18:PLOT 30,13:DRAWTO 33,18:
SOUND 0,0,0,0:FOR K=1 TO 30
840 NEXT K:NEXT J:POSITION 2,23:? "AGAIN?
PRESS FIRE";
850 IF STRIG(0)=1 THEN 850
860 GOTO 260
870 POSITION 2,23:? "CONGRATULATIONS!!!":
POKE 1664,1:POKE 1665,1
872 IF STRIG(0)=1 THEN 872
874 GOTO 260
880 FOR J=1 TO 3:X1=54+5*(J-1):X2=X1+40:M
=ASC(MENB$(J))
890 IF M=69 THEN B$(X1,X1+3)="":B$(X2,X2+
3)="
900 IF M=67 THEN B$(X1,X1+3)="(<)=":B$(X2
,X2+3)="DEF6"
910 IF M=77 THEN B$(X1,X1+3)="LHNO":B$(X2
,X2+3)="7UVW"
920 NEXT J:A$(BEG)=B$
930 FOR J=1 TO 6:X=ASC(CUR1$(J)):POSITION
X-1,18:M=ASC(MENA$(J)):IF M=69 THEN ? BL
K$;
940 IF M=67 THEN ? CAN$;
950 IF M=77 THEN ? MIS$;
960 NEXT J
970 FOR J=1 TO 6:X=ASC(CUR1$(J)):POSITION
X-1,2:M=ASC(MENC$(J)):IF M=69 THEN ? BLK
$;
980 IF M=67 THEN ? CAN$;
990 IF M=77 THEN ? MIS$;
1000 NEXT J
1010 IF MENC$="CCCNMM" THEN 870
1020 RETURN
1030 FOR J=1 TO 3:IF MENB$(J,J)<>"E" THEN
NEXT J
1040 MENB$(J,J)="C":RETURN
1050 FOR J=1 TO 3:IF MENB$(J,J)<>"E" THEN
NEXT J

```



```

1060 MENUS(J,J)="M":RETURN
1070 FOR J=1 TO 3:IF MENUS(J,J)<>"E" THEN
NEXT J
1080 MENUS(J,J)="C":RETURN
1090 FOR J=4 TO 6:IF MENUS(J,J)<>"E" THEN
NEXT J
1100 MENUS(J,J)="M":RETURN
1110 FOR J=1 TO 3:IF MENUS(J,J)<>"E" THEN
NEXT J
1120 MENUS(J,J)="C":RETURN
1130 FOR J=4 TO 6:IF MENUS(J,J)<>"E" THEN
NEXT J
1140 MENUS(J,J)="M":RETURN
1150 DIM MCS$(42):RESTORE 1160:FOR J=1 TO
42:READ A:MCS$(J,J)=CHR$(A):NEXT J
1160 DATA 104,169,0,133,203,133,205,169,2
24,133,204,165,106,56,233,5,133,106,24
1170 DATA 105,1,133,206,162,4,160,0,177,2
03,145,205,200,208,249,230,204,230,206,20
2,200,242,96
1180 A=USR(ADR(MCS$)):CSPAGE=PEEK(106)+1:
CS=256+CSPAGE:GRAPHICS 0:POKE 756,CSPAGE
1185 GOTO 1230
1190 RESTORE 1290:FOR J=CS+400 TO CS+735:
READ A:POKE J,A:NEXT J
1200 RESTORE 1610:FOR J=CS+776 TO CS+839:
READ A:POKE J,A:NEXT J
1210 GRAPHICS 0:POKE 756,CSPAGE:DL=PEEK(5
60)+256*PEEK(561):FOR J=6 TO 27:POKE DL+
,4:NEXT J:POKE DL+3,68:POKE DL+20,6
1220 POKE DL+11,132:POKE DL+21,132:RETURN

```

```

1230 RESTORE 1240:FOR J=1536 TO 1558:READ
A:POKE J,A:NEXT J
1240 DATA 72,138,72,166,209,189,21,6,141,
10,212,141,26,200,232,134,209,104,170,104
,64,136,38
1250 RESTORE 1260:FOR J=1560 TO 1577:READ
A:POKE J,A:NEXT J:GOSUB 1690
1260 DATA 104,160,0,162,0,169,7,76,92,228
1270 A=USR(1560):POKE 512,0:POKE 513,6:PO
KE 54206,192
1280 GOTO 2040
1290 DATA 0,0,0,0,0,0,0,0
1300 DATA 3,79,23,79,42,162,170,40
1310 DATA 192,241,212,241,168,138,170,40
1320 DATA 0,4,29,12,12,12,12,12
1330 DATA 2,2,2,2,2,10,10,8
1340 DATA 42,42,63,47,47,47,47,40
1350 DATA 168,168,252,248,248,248,248,40
1360 DATA 140,140,136,168,44,12,12,12
1370 DATA 0,0,0,2,2,2,2,2
1380 DATA 10,2,154,166,169,42,42,42
1390 DATA 160,120,166,154,106,168,168,168
1400 DATA 12,12,12,140,140,140,140,140
1410 DATA 0,0,0,0,0,0,0,2
1420 DATA 40,40,40,40,40,40,40,168

```

```

1430 DATA 40,40,40,40,40,40,40,42
1440 DATA 12,12,12,12,12,0,0,120
1450 DATA 0,0,0,0,0,0,0,0
1460 DATA 10,10,170,63,243,255,60,15
1470 DATA 160,160,170,252,207,255,60,240
1480 DATA 0,0,0,0,0,0,0,0
1490 DATA 1,1,1,3,15,14,14,2
1500 DATA 21,21,42,21,21,21,20,20
1510 DATA 84,140,168,84,84,84,20,20
1520 DATA 64,64,64,192,240,48,48,0
1530 DATA 0,1,1,1,1,1,1,1
1540 DATA 2,106,90,86,21,21,21,21
1550 DATA 128,169,165,149,84,140,84,140
1560 DATA 0,64,64,64,64,64,64,64
1570 DATA 2,0,0,0,0,0,0,2
1580 DATA 20,20,20,20,20,20,20,168
1590 DATA 20,20,20,20,20,20,40,42
1600 DATA 0,0,0,0,0,0,0,120
1610 DATA 255,215,53,53,13,13,3,3
1620 DATA 0,0,255,85,85,85,85,85
1630 DATA 0,0,255,213,213,117,117,117
1640 DATA 255,215,92,92,112,112,192,192
1650 DATA 213,213,53,53,13,13,3,3
1660 DATA 85,85,85,85,85,85,255,255
1670 DATA 93,93,93,87,87,87,255,255
1680 DATA 87,87,92,92,112,112,192,192
1690 GRAPHICS 18:POSITION 5,3:?"6;"CANNI
BALS":POSITION 8,5:?"6;"and":POSITION 4,
7:?"6;"MISSIONARIES"
1692 POSITION 2,9:?"6;"just a second..."
1700 DIM VBI$(132):RESTORE 1705:FOR J=1 T
O 132:READ A:VBI$(J,J)=CHR$(A):NEXT J
1705 DATA 169,0,133,209
1710 DATA 162,3,189,128,6,240,115,222,132
,6,40,39,189,132,6,205,160,6,176,102,189,
152,6,240,97,189,148,6
1720 DATA 41,240,29,152,6,72,134,205,138,
10,170,104,157,1,210,166,205,222,152,6,24
,144,71,189,136,6,133,203
1730 DATA 189,140,6,133,204,189,148,6,133
,206,188,144,6,134,205,138,10,170,177,203
,240,32,157,0,210,165,206
1740 DATA 157,1,210,166,205,200,177,203,2
40,23,157,132,6,200,152,157,144,6,189,156
,6,157,152,6,24,144,12
1750 DATA 157,0,210,24,144,223,157,144,6,
222,128,6,202,16,133,76,98,220
1760 REM ? INSERT VBI ROUTINE ?
1780 VBI=ADR(VBI$):HI=INT(VBI/256):LO=VBI
-256*HI:POKE 1570,LO:POKE 1572,HI
1800 REM ? SOUND STRINGS ?
1810 DIM SND$(86):RESTORE 1820:FOR J=1 T
O 86:READ A:SND$(J,J)=CHR$(A):NEXT J
1820 DATA 100,20,91,20,91,30,81,10,91,00,
81,20,68,20,68,30,81,10,91,00,91,20,91,20
,68,20
1830 DATA 60,20,53,40,68,40,53,20,53,20,6

```

```

0,30,68,10,60,00
1840 DATA 100,20,91,20,91,30,81,10,91,00,
81,20,68,20,68,30,81,10,91,00,91,20,91,20
,68,20
1850 DATA 60,20,53,40,68,40,60,20,68,20,5
3,30,60,10,68,00,00
1860 DIM SND2$(86):RESTORE 1870:FOR J=1 T
O 86:READ A:SND2$(J,J)=CHR$(A):NEXT J
1870 DATA 136,20,100,20,100,30,102,10,100
,00,102,20,81,20,81,30,102,10,100,00,100,
20,100,20,91,20
1880 DATA 91,20,91,40,100,40,91,20,91,20,
91,30,96,10,91,00
1890 DATA 136,20,100,20,100,30,102,10,100
,00,102,20,81,20,81,30,102,10,100,00,100,
20,100,20,91,20
1900 DATA 91,20,91,40,100,40,102,20,100,2
0,91,30,102,10,100,00,00
1950 REM ? PAGE 6 INIT. ?
1960 RESTORE 1970:FOR J=1664 TO 1696:READ
A:POKE J,A:NEXT J
1970 DATA 1,1,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,0,170,170,170,170,10,10,10,10,1
0,10,10,15
1990 HI=INT(ADR(SND1$)/256):POKE 1676,HI:
LO=ADR(SND1$)-256*HI:POKE 1672,LO
2000 HI=INT(ADR(SND2$)/256):POKE 1677,HI:
LO=ADR(SND2$)-256*HI:POKE 1673,LO
2030 RETURN
2040 GRAPHICS 0:POKE 752,1:?"CANNI
BALS AND MISSIONARIES":?"In the wildeerne
ss island of New "
2042 ? "Guinea, three missionaries and":?
"three cannibals are traveling":?"toget
her when they encounter"
2044 ? "a broad river. They have with":?
"them a small canoe which can carry":?"
a maximum of three people at"
2046 ? "a time. The missionaries do not"
:?"trust the cannibals, so they":?"esta
blish the following conditions"
2048 ? "for the river crossing":?"(1
) A missionary must occupy the"
2050 ? "canoe on each trip across the riv
er":?"(2) On either bank of the river"
2052 ? "cannibals must not outnumber":?"
missionaries (unless there is no ":?"mis
sionary on a particular bank)."
2054 ? :?"Use joystick 1 to select passi
ngers":?"push the stick forward or pull
back"
2056 ? "to move the boat":?"Press fire
to start (SLIGHT DELAY).":?
2058 IF STRIG(0)=1 THEN 2058
2060 GRAPHICS 0:POKE 752,1:?"INITIALIZIN
G...":GOTO 1190

```



```

# REM #####
1 REM # ATARI COMPUTER ENTHUSIASTS #
2 REM # 3662 VINE MAPLE #
3 REM # EUGENE, OR 97405 #
4 REM # $15 YEAR AFTER 1/1/84 #
5 REM #####
6 REM #####
7 REM # CHECK WRITING #
8 REM # BY #
9 REM # KEN E. WAIBEL #
10 REM # NOV. 1983 #
12 REM #####
15 GOTO 50
20 REM KEYBOARD ROUTINE
22 OPEN #1,4,0,"K:"
24 GET #1,R
26 CLOSE #1
28 RETURN
50 REM INSTRUCTION PROMPT
52 ? " "
54 ? "DO YOU NEED INSTRUCTIONS? (Y/N)"
56 GOSUB 20
58 IF R=89 THEN GOSUB 3000
59 ? " "
60 ? "DO YOU WANT A RECORD OF THESE CHECK
S?" ? "(Y/N)"
62 GOSUB 20
64 IF R=89 THEN ENTER "D:CHECK.MER":REM F
ILE TO BALANCE AND LIST CHECK NOT INCLUDE
D IN THIS LISTING
90 DIM A$(8),B$(60),C$(50),D$(10),E$(60),
G$(20)
99 GOTO 200
100 REM SUBROUTINE FOR CUSTOM CHECKS
110 ? " :? :? :? C$:"
120 ? "AMOUNT OF CHECK, EX. 16.25":INPUT
D$
130 ? "ENTER AMOUNT, EX. SIXTEEN AND 25/1
00'S":INPUT E$
140 LPRINT "
";A$;" ";83
142 LPRINT :LPRINT :LPRINT " " ;C$;D
$
144 LPRINT :LPRINT E$
146 LPRINT :LPRINT :LPRINT :LPRINT "
";G$
150 GOTO 300
200 REM DATE FOR ALL CHECKS
205 ? " "
210 ? "WHAT IS TODAY'S DATE? EX. AUG.24":
REM YOU MAY HAVE TO ADD A FEW SPACES AFTE
R DATE
215 INPUT A$
300 REM KIND OF CHECKS
305 ? " "
310 ? "KIND OF CHECK: (SELECT LETTER)"

```

```

320 ? " Auto payment #1"
322 ? " Boob tube (pay TV)"
324 ? " Car payment #2"
326 ? " D --OPEN --"
328 ? " Electric"
330 ? " F --OPEN --"
332 ? " Gasoline"
334 ? " H --OPEN CREDIT CARD--"
336 ? " I --OPEN CREDIT CARD--"
344 ? " Mortgage"
354 ? " Regular"
356 ? " Sears"
358 ? " Telephone"
362 ? " Visa/Mastercharge Card"
364 ? " Water"
370 GOSUB 20:REM GOTO'S
372 IF R=65 THEN GOTO 600
374 IF R=66 THEN GOTO 700
376 IF R=67 THEN GOTO 800
378 IF R=68 THEN GOTO 900
380 IF R=69 THEN GOTO 1000
382 IF R=70 THEN GOTO 1100
384 IF R=71 THEN GOTO 1200
386 IF R=72 THEN GOTO 1300
388 IF R=73 THEN GOTO 1400
390 IF R=77 THEN GOTO 1500
391 IF R=82 THEN GOTO 1600
392 IF R=83 THEN GOTO 1700
393 IF R=84 THEN GOTO 1800
394 IF R=86 THEN GOTO 1900
395 IF R=87 THEN GOTO 2000
396 GOTO 300
400 REM PRINTING CHECKS
420 LPRINT "
";A$;" ";83
422 LPRINT :LPRINT :LPRINT " " ;B$
424 LPRINT :LPRINT E$
426 LPRINT :LPRINT :LPRINT :LPRINT "
";G$
430 GOTO 300
600 REM CUSTOM CHECKS,AUTO payment #1
610 B$=" ":REM FOLLOW PATTERN 1510
620 E$=" ":REM FOLLOW PATTERN 1520
630 G$=" ":REM FOLLOW PATTERN 1530
640 GOTO 400
700 REM CUSTOM CHECKS,BOOB TUBE
710 B$=" ":REM FOLLOW PATTERN 1510
730 G$=" ":REM FOLLOW PATTERN 1530
740 GOTO 400
800 REM CUSTOM CHECKS,CAR PAYMENT #2
810 B$=" ":REM FOLLOW PATTERN 1510
830 G$=" ":REM FOLLOW PATTERN 1530
840 GOTO 400
900 REM CUSTOM CHECK, D -- OPEN --
910 C$=" "
920 ? "WHAT IS THIS FOR?":INPUT G$:REM YO

```

```

U MAY REPLACE WITH G$=account no.
940 GOTO 100
1000 REM CUSTOM CHECK, ELECTRIC
1010 C$=" "
1020 ? "WHAT IS THIS FOR?":INPUT G$:REM Y
OU MAY REPLACE WITH G$=account no.
1040 GOTO 100
1100 REM CUSTOM CHECK, F -- OPEN --
1110 C$=" "
1120 ? "WHAT IS THIS FOR?":INPUT G$:REM Y
OU MAY REPLACE WITH G$=account no.
1140 GOTO 100
1200 REM CUSTOM CHECK, GASOLINE
1210 C$=" "
1220 ? "WHAT IS THIS FOR?":INPUT G$:REM Y
OU MAY REPLACE WITH G$=account no.
1240 GOTO 100
1300 REM CUSTOM CHECK, H -- OPEN --
1310 C$=" "
1320 ? "WHAT IS THIS FOR?":INPUT G$:REM Y
OU MAY REPLACE WITH G$=account no.
1340 GOTO 100
1400 REM CUSTOM CHECK, I -- OPEN --
1410 C$=" "
1420 ? "WHAT IS THIS FOR?":INPUT G$:REM Y
OU MAY REPLACE WITH G$=account no.
1440 GOTO 100
1500 REM CUSTOM CHECK, MORTGAGE
1510 B$="PAY'EM FOREVER MORTGAGE CO.
999.99"
1520 E$="NINE HUNDRED NINETY NINE AND 99/1
00'S"
1530 G$="0123456":C=999.99:REM G$ IS ACCO
UNT NUMBER;C IS AMOUNT
1540 GOTO 400
1600 REM CUSTOM CHECK, REGULAR
1610 ? "ENTER THE CHECK AS THE FOLLOWING
EXAMPLE"
1615 ? "BE SURE TO ENTER AMOUNT AS ILLUSTRATED"
1620 ? :?
1630 ? "JOHN DOE
10.62":INPUT B$
1632 ? :?
1634 ? "ENTER DOLLARS, EX. ONE HUNDRED TW
ENTY SEVEN AND 67/100'S":INPUT E$
1636 ? "WHAT IS THIS CHECK FOR?":INPUT G$
1640 GOTO 400
1700 REM CUSTOM CHECK, SEARS
1710 C$="SEARS, ROEBUCK AND COMPANY
"
1720 ? "WHAT IS THIS CHECK FOR?":INPUT G$
:REM YOU MAY REPLACE WITH G$=ACCOUNT NO.
1740 GOTO 100
1800 REM CUSTOM CHECK, TELEPHONE
1810 C$=" "

```



```

1820 ? "WHAT IS THIS CHECK FOR?":INPUT G$
:REM YOU MAY REPLACE WITH G$=ACCOUNT NO.
1840 GOTO 1800
1900 REM CUSTOM CHECK, VISA
1910 C$=" "
1920 ? "WHAT IS THIS CHECK FOR?":INPUT G$
:REM YOU MAY REPLACE WITH G$=ACCOUNT NO.
1940 GOTO 1800
2000 REM CUSTOM CHECK, WATER
2010 C$=" "
2020 ? "WHAT IS THIS CHECK FOR?":INPUT G$
:REM YOU MAY REPLACE WITH G$=ACCOUNT NO.
2040 GOTO 1800
3000 REM INSTRUCTIONS
3005 ? " "
3010 ? " THIS PROGRAM IS NOT COMPLETE "
3015 ? :? "YOU MUST PERSONALIZE THESE ENT
RIES BY":? "CHANGING LINES 300 TO 400 TO
CORRES-"
3020 ? "POND TO THOSE TO WHOM YOU WRITE C
HECKS":? "YOU MAY WISH TO RUN THE PROGRAM
AS IT"
3025 ? "IS ON PLAIN PAPER TO COMPARE TO T
HE ":? "SPACING ON YOUR CHECKS. MAKE UP
":? "ENTRIES AS YOU NEED TO."
3030 ? "EXAMINE ALL THE REM STATEMENTS.
IF":? "YOU WANT A HARD COPY OF YOUR CHECK
S,"
3035 ? "YOU MUST HAVE CHECKS.MER FILE ON
THE":? "SAME DISK."
3040 ? :? "THIS PROGRAM IS FOR THE ATARI
1025":? "PRINTER WHICH DOES NOT HAVE THE
TAB"
3045 ? "FEATURE. YOU MAY SIMPLIFY THE PR
OGRAM":? "IF YOU HAVE TABS ON YOUR PRINTE
R."
3050 ? :? " PRESS ANY KEY FOR MORE":GO
SUB 20
3060 ? "THERE ARE THREE DIFFERENT TYPES O
F":? "CHECKS. THE FIRST TYPE(ENTER M WHE
N"
3065 ? "PROMPT FOR TYPE APPEARS) IS A CHE
CK":? "TO THE SAME PERSON OR COMPANY--ALW
AYS":? "FOR THE SAME AMOUNT."
3070 ? :? "THE SECOND TYPE(ENTER S) IS A
CHECK":? "TO THE SAME PERSON OR COMPANY B
UT":? "FOR A DIFFERING AMOUNT."
3075 ? :? "THE THIRD TYPE(ENTER P) IS A C
HECK":? "TO A DIFFERING PERSON AND AMOUNT
."
3080 ? :? "ONCE SET UP, THIS PROGRAM SHOU
LD MAKE":? "CHECK WRITING ON YOUR OWN CHE
CKS"
3085 ? "A BREEZE! IF YOU USE CHECK.MER,
YOUR":? "BALANCING WILL BE EASY AS WELL"
3090 ? :? :? :? " PRESS ANY KE
Y":GOSUB 20
3099 RETURN

```

LOGO - PILOT COMPARISON CHART

	LOGO	PILOT
EDITOR	yes	yes
Full cursor	no	yes
Renum and Auto	NA	yes
Immediate mode	no	yes

SCREEN OUTPUT

Auto clear	no	yes
Does not break words	no	yes
Multiple text modes	no	yes

SOUND

Voices	2	4
Duration control	yes	yes
Volume control	yes	no

VARIABLES

Local variables	yes	no
Global variables	yes	yes
No dimensioning	yes	yes
Unlimited name length	yes	yes
Maximum # variables	no	yes
Mix with text literals	no	yes
Data Types		
Numeric	NA	yes
Strings	NA	yes
Words	yes	NA
Lists	yes	NA

DEBUGGING

Trace command	no	yes
Remark statements	no	yes

STRUCTURE

Line numbers	no	yes
Modular	yes	Not completely
Encourage structure	Best	Good
Recursion	yes	no
List processing	yes	no
"Matching" function	no	yes
Data manipulating	yes	no
Random Access	None	None

TURTLE GRAPHICS

Visible Turtle	yes	no
Multiple Turtles	yes	no
Speed Control	yes	no
Collision register	yes	no
Fast execution	no	yes
Fill command	no	yes
Full screen graphics	yes	no
Split screen graph.	yes	yes

TIDBITS

Tips for Beginners

Welcome to the first of a series consisting mostly of various tips and tricks I have picked up since I bought my 800 two years ago. This first installment of the series will be especially for the beginners out there, although some of the material might even interest some of you old hands, too. While many of you will be well aware of the information I will be presenting, there will be quite a few who aren't, so please bear with me.

Have you ever wanted to keep someone from breaking into your program while it is RUNNING? Simply disable the BREAK key by having the program POKE locations 53774 and 16 with 112. If you POKE location 580 with anything other than 0, the next time SYSTEM RESET is pressed, the computer will shut itself off and turn itself back on again —so the program will be zapped.

Do you know what the most common part failure on an Apple computer is? The on/off switch (or so I'm told). Well, I don't think that Atari's on/off switch is much better than Apple's, so I try not to use it. How, you ask? There are three ways I know of to make the computer do a power-up sequence (coldstart) without using the power switch. One of them is to type this line and hit [Return]: ?USR(61733). Another is to type the following line, hit [Return], and then push SYSTEM RESET: POKE 580,1 (this is also the tip I covered above). The third way, and also the one I use if the computer locks up, is to simply lift up the cartridge door lid and then shut it again. I find these procedures useful when I want to reboot the system with a different disk, when I wish to load a cassette boot tape after I have powered up, or when I want to get rid of a program without typing NEW.

Have you ever wanted to change the margins or number of lines the computer will scroll when in GRAPHICS 0? Try typing this and hitting [Return]: POKE 703,4. (Actually, the computer will only allow either 0, 4 or 24 lines, so those are the only values location 703 will recognize.) Now type some garbage, or LIST a program. How about that, eh? Also, locations 82 and 83 hold the left and right margin values respectively. Try POKEing different values in these locations and see what happens. You can always push SYSTEM RESET if you work yourself into a corner.

Did you know that every time you take a cartridge out or put one back in it puts some wear on your computer? (I'm told that what happens is that the soldered contacts on the motherboard (the one with all the main chips) wiggle and eventually come loose —which can only mean trouble). While this process is very, very slow, and may never cause problems on many computers, you should still try not to take cartridges in and out needlessly (but don't be afraid to do it when you have to— after all, Donkey Kong is just too good to let sit and collect dust). If you have some commercial programs which boot in from cassette or disk and don't need 48k, leave BASIC in and then try to boot —many programs (but not all) will work anyway.

Well, that's enough for this time. Next time I'll continue with some more general tips.

—Dale Lutz
Canada

DEPTH CHARGE

Play this game with joystick one to move the destroyer horizontally. The trigger releases the depth charges which drop on the submarines.

Only two depth charges may be dropped at one time. You can miss with more! The small purple subs score 50 points. The medium yellow subs score 20 points. The large green subs score 10 points. You begin each game with 30 depth charges.

—Sidney Brown

SUPER MAILER PLUS

by DON MARR, ROYAL SOFTWARE, \$49.95

Super Mailer Plus is a program for anyone who needs to make labels, keep lots of names and addresses, or just catalog titles of books, etc. This program sorts faster than most programs I've used and in fact faster than most period. And it sorts in many forms. It will sort by alphabet, zip code, city, state and most other ways you can think up.

The fields you set up can contain many pieces of information, but only the necessary information is ever printed on the label. With just a few pressed keys all the information can be brought up on the screen for one to read and use, or update. These same fields can be changed to make lists of whatever information is desired. In short, what we have is a small data base in addition to a mailing program.

Built into the program are the abbreviations for all the states and the ability to find and discard duplicates. It will format a disk or change so the program can be run in double density, and double sided, which gives the user quite a lot of storage.

This is a menu driven program and at each division of the menu one can call up instructions to use that portion of the program or go back to the main menu. The documentation coming with the program is quite thorough, but really isn't needed because of the instructions in the program itself.

There isn't anything left out of this program. The author has pretty well thought of everything belonging in a program of this type.

—Larry Gold

THE CHIP

by MIKE GUSTAFSON, SPARTAN SOFTWARE OF MINNESOTA, INC.,
\$99.95

The Chip is an EPROM with a special program put inside your disk drive allowing you to copy, edit, custom format, and map programs which might not otherwise be available to you.

The Archiver portion of this software package allows you to make backup copies of your software. It is probably the most used function of The Chip. While the other functions are least used and least understood they are by far the best part of the software package.

The Editor was designed for ease of use with one key commands allowing you to move from one portion of the editor to another. Only one track's sector list will be displayed at a time. Once you can open up a program, individual sections can be read and studied to learn how many of the routines were achieved thus enabling one to better understand programming. Since the program you are disassembling works and the sub-routines you are looking at work, you can see how they are incorporated in the whole program. This becomes most important so you can learn to make your own programs work at the same level. At the same time you can also enlarge a program and enter routines you may feel are necessary and thus customize the program for your individual use.

The Custom Formatter allows the user to custom format disks and programs to that others cannot copy the programs. The mapper maps the program so one knows where everything is.

The only feature of the package which can be disconcerting to the user is the installation of the EPROM in the disk drive and the modification of the board by cutting several lines and jumping others. If the buyer is not up to this type of installation he should plan on having a service man do it. I found the installation manual to be complete and with illustrations showing just how to install the EPROM and make the necessary adjustments to the circuit board with a minimum of fuss and bother.

—Larry Gold

MEETING

Weds., Nov. 9th, 7:30

WISTEC

2300 Centennial Blvd.

AUTORUN.SYS

What is AUTORUN.SYS and How Do I Get One?

(from the newsletter of the Orange County Atari user group)

Whenever the computer is turned on it does a bunch of things. It checks for a disk drive and loads and initializes DOS (the Disk Operating System) from drive 1. Initialization generally means setting several memory locations to specific values which mean things to the system.

Part of this initialization process checks for a binary file on the disk named AUTORUN.SYS. If it finds file of that name and the first two bytes of the file each contain the value of hex FF (decimal 255) the DOS will read the next four bytes of the file as two bytes of starting address and two bytes of ending address (lo part of the address first is normal for machine language addresses).

DOS then loads bytes from the file into memory starting at the beginning address and continuing through the ending address. For the purpose of this discussion, the next thing DOS does is to load another pair of addresses from the file and load more bytes into memory. DOS continues this process until the bytes loaded go into locations hex 02E0 & 02E1 or hex 02E2 & 02E3. These are "magic" locations, because DOS performs a jump through these locations. This means that whatever is in these locations becomes an address to which DOS jumps. This is how the AUTORUN program is executed. First it loads into memory, then the starting address is loaded into 02E0 & 02E1. When DOS jumps through these locations, it jumps to the start of the AUTORUN program and begins execution.

Two basically different types of AUTORUN.SYS programs exist in the community. One is supplied with the DOS 2.0 disk. This one boots the RS-232 device handler from the 850 interface module and then returns control to the operating system. The second one executes an immediate mode BASIC command such as RUN"D:MENU which causes a program called MENU to be LOAded from the disk and RUN. So you see, one boots the interface and the other executes a BASIC command.

Well, what if the BASIC program uses the RS-232 port? Too bad — it ain't booted!! We could boot the interface and then LOAD the program manually, but that takes extra effort. So my friends, here is both at once and an explanation of what's going on to boot (pun intended).

The BOOTBILD program in listing 1 creates the AUTORUN.SYS file which will boot the interface and then execute whatever BASIC command you enter; i.e., it writes a binary AUTORUN.SYS file onto your disk.

Statement 10 is a cute way to save typing when developing programs. By listing line 10, positioning the cursor over the 1 and typing 6 spaces and a carriage return, you get an automatic SAVE of the program (with line 10 intact, thanks to Atari's wonderful screen editor).

Lines 600-720 put up the screen message prompting you to turn on the 850 interface module and to enter the BASIC command desired.

Line 40 is the INPUT statment for the BASIC command.

Lines 50-130 is a checksum routine. Since it's easy to make errors when entering machine language programs in the form of DATA statements, this routine READs the data and forms a checksum of every line. The last entry in each DATA line is a checksum which must equal the one computed. If it does, the program continues. If it doesn't, the program lists the offending line so it can be corrected. Once the program is "up and running", this routine and the checksum data can be eliminated from the program to save a little time and memory.

Lines 140-370 write the AUTORUN.SYS binary file onto your disk with your BASIC command embedded in it. Lines 150 through 180 set up the two hex FF byte binary header and the starting address — hex 3800, decimal 56*256. Lines 190-205 compute and write the ending address by adding the length of your BASIC command to the length of the machine language program. Lines 210-280 write the machine language program and the BASIC statement. Lines 290-370 write the initialization address with the two byte hex FF header.

Lines 400-540 contain the machine language program which performs the booting and BASIC command execution.

The machine language program is given in listing 2. Instead of line numbers, it is more instructive to discuss machine language programs in terms of memory locations.

Locations 3837-3849 load the "R" handler from the interface module into memory. If the load is successful — and it should always be if the interface module is alive and well — the next section is executed. If it is not successful, then the next section is skipped over.

Locations 384A-3856 mechanize and indirect JSR. Locations 0C & 0D hold the DOS initialization vector, DOSINI. By loading from 0C & 0D and storing the contents in 3855 and 3856, an indirect JSR is manufactured. The JSR through DOSINI then initializes DOS and returns to the next section.

Locations 3857-38D6 contain the BASIC command executor. This is performed by "stealing" the screen editor handler vector tabe and substituting our own. The one we substitute is identical to the original except for the GET character vector. The GET character vector now points to location 3876, which is the beginning of the new GET character routine. The substitute vector table is contained in locations 3867-3875. The GET character routine, locations 3876-3884, writes the BASIC command onto the screen in the immediate read mode. This command will be executed as soon as control is returned to the operating system. Locations 3885-3891 set up values for a return to the operating system and then RETURNs to the operating system. This RETURN causes the BASIC command to be executed and away we go.

Well, that's all there is to it. Type in the BASIC program in listing 1. RUN it, enter your BASIC command and voila — you now have an AUTORUN.SYS file on your disk which boots the interface and then executes your BASIC command.

—Chuck Hosick
A.C.A.O.C.

```

1 REM ACE NEWSLETTER, 3662 VINE MAPLE DR.
  , EUGENE, OR 97405
2 REM #####
3 REM ### PROGRAM FRONT PAGE ###
4 REM ###      IDEA      ###
5 REM ### FROM JOHN R. KELLEY ###
6 REM ###  OCTOBER 15, 1983 ###
7 REM #####
10 GRAPHICS 0:POKE 752,1
20 POKE 710,0:REM USE OTHER 700-712 POKES
  TO VARY COLORS IN GRAPHICS MODES 1 AND 2
30 DL=PEEK(560)+256*PEEK(561)
40 POKE DL+9,7:POKE DL+10,6:POKE DL+21,7:
  POKE DL+22,6
45 REM PUTS GRAPHICS MODES 1 AND 2 IN 4 P
  LACES ON SCREEN
50 POSITION 4,4: "Program name      pro
  gram subtitle"
55 REM "program name" IN INVERSE VIDEO
60 POSITION 2,6: " Program description,
  any special      instructions or other co
  gent infor-"
70 ? "nation about the program to follow,
  such as a short description of the"
80 ? "program, any special rules, whether
  keyboard or joystick controls action,
  or any other information."
90 POSITION 5,15: "SOURCE OR
  attribution"
95 REM "attribution" IN INVERSE VIDEO
100 POSITION 7,18: "Hit START to begin p
  rogram"
105 REM "START" IN INVERSE VIDEO
110 IF PEEK(53279)<>6 THEN SOUND 0,RND(0)
  #32,10,6:GOTO 110
115 REM USE "START" CONSOLE KEY TO BEGIN
  PROGRAM
120 SOUND 0,0,0,0
130 GRAPHICS 0

```


PILOT by Ruth Ellsworth

```

10 R:THIS PROGRAM GENERATES RANDOM SOUNDS, BACKGROUND COLORS, AND GRAPHI
20 *RANDOM
30 C:HA=?\32
40 J(HA=0):*RANDOM
50 C:HB=?\10
60 C:HC=?\360
70 C:HD=?\16
75 C:HE=?\7
80 J:*MAIN
90 E:

```

```

100 *MAIN
105 C:@B712=HD*16+HE
110 SO:HA
120 T:THIS SOUND IS\
130 T: HA
132 T:THIS COLOR IS\
134 T: HD\
136 T: LUMINANCE\
138 T: HE
140 GR:DRAW HB
150 GR:TURN HC
160 PA:90
170 T:3
190 J:*RANDOM
200 E:

```

```

TO SOUNDFUN
MAKE "FREQ RANDOM 1000
TOOT 0 :FREQ + 14 RANDOM 15 RANDOM 100
MAKE "COLOR RANDOM 125
SETBC :COLOR
FD RANDOM 100
RT RANDOM 360
TYPE [THE SOUND FREQUENCY IS\ ]
PR :FREQ + 14
TYPE [THE BACKGROUND COLOR IS\ ]
PR :COLOR
WAIT 100
CT
SOUNDFUN
END

```

```

10 R:MUSIC FOR ADVENTURE GAMES 1
20 SO:12
30 PA:16
40 SO:17
50 PA:32
60 SO:0
70 SO:17
80 PA:16
90 SO:0
100 SO:17
110 PA:32
120 SO:19
130 PA:16
140 SO:20
150 PA:32
160 SO:19
170 PA:16
180 SO:20
190 PA:32
200 E:

```

```

TO ANTS
TOOT 0 245 10 16
TOOT 0 329.6 10 32
TOOT 0 32456 0 1
TOOT 0 329.6 10 16
TOOT 0 32456 0 1
TOOT 0 329.6 10 32
TOOT 0 370 10 16
TOOT 0 392 10 32
TOOT 0 370 10 16
TOOT 0 392 10 32
END

```


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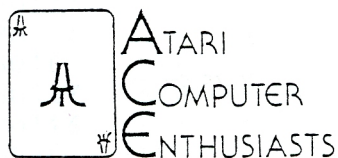
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